P-3 Orion 04/13/17

Aircraft:
P-3 Orion (See full schedule)
Flight Number:
Science Flight #22-North Glaciers 02 Prime (High Priority)
Payload Configuration:
OIB Arctic
Nav Data Collected:
No
Total Flight Time:
8.2 hours
Submitted by:
Cate Easmunt on 04/13/17
Flight Segments:

From:	BGTL	**To:**	BGTL
Start:	04/13/17 10:45 Z	**Finish:**	04/13/17 18:58 Z
Flight Time:	8.2 hours		
Log Number:	17P006	**PI:**	Nathan Kurtz
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		

Flight Hour Summary:

	17P006
Flight Hours Approved in SOFRS	333.6
Total Used	332
Total Remaining	1.6

17P006 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
02/24/17	Airworthiness Test Flight	Check	1	1	332.6
02/26/17	Project Test Flight #1	Check	4.9	5.9	327.7
02/27/17	Project Test Flight #2	Check	3	8.9	324.7
03/07/17	Transit Flight	Transit	8.2	17.1	316.5
03/09/17	Science Flight #1 - North Pole Transect	Science	8	25.1	308.5
03/10/17	Science Flight #2 - Laxon Line	Science	8.5	33.6	300
03/11/17 - 03/12/17	Science Flight #3 - Chukchi West Line	Science	8	41.6	292
03/12/17 - 03/13/17	Science Flight #4 - North Beaufort Loop Line	Science	8.1	49.7	283.9
03/14/17 - 03/15/17	Science Flight #5 - East Beaufort Loop Line	Science	8	57.7	275.9
03/20/17	Science Flight #6 - Sea Ice South Basin Transect (to Thule)	Science	8.1	65.8	267.8
03/22/17	Science Flight #7 - North Flux 02	Science	7.9	73.7	259.9
03/23/17	Science Flight #8 - Zig Zag West Line	Science	7.9	81.6	252
03/24/17	Science Flight #9 - CryoVEx Line	Science	5.8	87.4	246.2
03/27/17	Science Flight #10 - Northwest Coastal A Line	Science	7.4	94.8	238.8
03/28/17	Science Flight #11 - North Central Cap 01 Line	Science	7.6	102.4	231.2
03/29/17	Science Flight #12 - Ellesemere Island 01 Line	Science	7.6	110	223.6
03/30/17	Science Flight #13 - Ellesemere South Line	Science	7.9	117.9	215.7

03/31/17	Science Flight #14- Alexander-Petermann Line	Science	6.5	124.4	209.2
04/03/17	Science Flight #15- Zachariae 79N Fram Straight and BGTL ENSB Transit	Science	7.4	131.8	201.8
04/05/17	Science Flight #16 - Svalbard North Line (High Priority)	Science	7	138.8	194.8
04/06/17	Science Flight #17- Svalbard South Mission (High Priority)	Science	8.5	147.3	186.3
04/07/17	Science Flight #18- Combined Zig Zag East Mission and Transit ENSB to BGTL	Science	8.3	155.6	178
04/10/17	Science Flight #19- North Central Gap 3	Science	7.8	163.4	170.2
04/11/17	Science Flight #20- CryoVex 2 (High Priority)	Science	7.8	171.2	162.4
04/12/17	Science Flight #21-Northwest Coastal C	Science	7.2	178.4	155.2
04/13/17	Science Flight #22-North Glaciers 02 Prime (High Priority)	Science	8.2	186.6	147
04/14/17	Science Flight #23-IceSat-2 North/CryoSat-2 SARIn	Science	7	193.6	140
04/17/17	Science Flight #24-Humboldt 01(High Priority)	Science	7.8	201.4	132.2
04/19/17	Science Flight #25-Sea Ice - South Canada Basin (MediumPriority)	Science	7.8	209.2	124.4
04/20/17	Transit Flight to Kangerlussuaq	Transit	3	212.2	121.4
04/21/17	Science Flight #26-Southeast Coastal	Science	8	220.2	113.4
04/22/17	Science Flight #27-Helheim-Kangerd	Science	7.8	228	105.6
04/24/17	Science Flight #28-Geikie 01 (High Priority)	Science	8	236	97.6
04/26/17	Science Flight #29-Devon-Bylot (Medium Priority)	Science	7.9	243.9	89.7
04/28/17	Science Flight #30-Penny 01 (Medium Priority)	Science	6	249.9	83.7
04/29/17	Science Flight #31-Thomas - Jakobshavn 01	Science	8.4	258.3	75.3
05/01/17	Science Flight #32-Thomas - Jakobshavn-Eqip-Store	Science	8.4	266.7	66.9
05/02/17	Science Flight #33-Thomas - ICESat-2 Central	Science	7.9	274.6	59
05/03/17	Science Flight #34-Thomas - Southwest Coastal A	Science	8.3	282.9	50.7
05/05/17	Science Flight #35-Helheim-Kangerdlugssuaq Gap B (High Priority)	Science	8.2	291.1	42.5
05/06/17	Science Flight #36-Helheim-K-EGIG-Summit	Science	8	299.1	34.5
05/08/17	Science Flight #37-Southeast Glaciers 01 (High Priority)	Science	8	307.1	26.5
05/10/17	Science Flight #38-Umanaq B (High Priority)	Science	8	315.1	18.5
05/11/17	Science Flight #39-ICESat-2 South (High Priority)	Science	8.1	323.2	10.4
05/12/17	Science Flight #40-Nuuk Fjords	Science	1.8	325	8.6
05/13/17	Transit Flight to Dover DE (to clear customs)	Transit	6.4	331.4	2.2
05/13/17	Transit Flight to Wallops Flight Facility	Transit	0.6	332	1.6

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Related Science Report:

OIB - P-3 Orion 04/14/17 Science Report

Mission:
OIB
Mission Summary:

Mission: IceSat-2 North/CryoSat-2 SARIn (priority: baseline)

This mission is designed to overfly planned IceSat-2 ground tracks over a wide range of ice regimes near Thule. We center some of the flightlines on each of three beam pairs (left, nadir and right) in turn, sampling at least one of each beam pair during this mission. The east-west crossing line is designed to capture as many ascending/descending crossovers as possible. We also fly a particular flowline of Petermann Glacier which has been sampled intermittently during the ATM and OIB eras, overflying two GCNet sites in the process, and also overflying a recently-identified rift near the center of Petermann's floating ice shelf. Finally we overfly two core sites near Thule, known as ?2Barrels? and ?North Ice Cap?. The flight also crosses the CryoSat-2 SARIn mode pass in this area. We had to shorten the flight by skipping roughly the northern half of the easternmost two IceSat-2 lines, due to abbreviated Friday Thule airfield hours.

Weather in northwest Greenland today was dominated by weak outflow for most of northwest Greenland, giving us a descending (and thus warming and drying) air mass for most of this flight line. An exception was in the area east and south of Thule, which was experiencing some onshore winds from the south which produced some thin stratus in those areas. These dissipated during the day giving us clear skies after our initial climbout and first data line. Overall we estimate 98% successful data collection today, with all of the loss due to clouds on the southern portion of the first, westernmost IceSat-2 line.

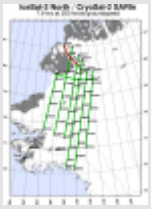
All instruments performed well.

Data volumes:
Accumulation Radar: 1.2 Gb
ATM: 138 Gb
CAMBOT: 38 Gb
DMS: 90 Gb
FLIR: 14 Gb
KT19: 10 Mb
MCoRDS: 1.6 Tb
Narrow Swath ATM: 26 Gb
Snow Radar: 1.3 Tb

total data collection time: 6.7 hrs

Images:

Map of IceSat-2 North / CryoSat-2 SARIn



Map of today's flight.

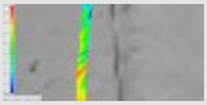
Read more

Rift in Petermann Glacier ice shelf

blique photo of a portion of the new rift on Petermann Glacier's floating ice shelf (straight feature near bottom center), and an older curved rift from the flank of the shelf near top center. The shaded feature near bottom center is a medial flowline, whose presence may exert a stagnating effect on the propagation of the new rift toward the older one.

Read more

ATM image of rift



Preliminary ATM topographical image of the new rift, which is the thin blue feature at center.

Read more

DMS rift image

Preliminary DMS image of the new rift, directly beneath our aircraft.

Read more

Petermann wall

Petermann Glacier's east wall near the terminus of the floating ice shelf, with blowing snow visible coming from the plateau to the east.

Read more

Submitted by:
John Sonntag on 04/14/17

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